

REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed September 3, 2003

Currently, claims 1-53 are pending. Applicants have amended claims 1, 6, 12, 19, 25, 32, 37, 43, 47, and 48 and added claims 54-63. Applicants respectfully request reconsideration of claims 1-53 and consideration of newly added claims 54-63.

I. Allowable Subject Matter/Claim Objections

Claims 32-34 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, claim 32 has been rewritten in independent form. Thus, Applicants assert that claim 32 is patentable over the cited art. Claims 33-34 each ultimately depend from claim 32 and should be patentable for at least the same reasons as claim 32. Applicants respectfully submit that claims 32-34 are in condition for allowance.

II. Rejection of Claims 6-8, 12 and 47 under 35 U.S.C. § 112, Second Paragraph

Claims 6-8, 12, and 47 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claims 6, 12, and 47

Claim 6 was rejected for reciting, "said first encoder" without sufficient antecedent basis for the claim limitation. Claim 6 has been amended to recite "said first sensor" in place of "said first encoder." Applicants respectfully submit that sufficient antecedent basis for "said first sensor" can be found in claim 1. Claim 6 depends from claim 1. Accordingly, Applicants assert that claim 6 is in compliance with 35 U.S.C. § 112, second paragraph.

Claim 12 was rejected for reciting, "said first encoder" without sufficient antecedent basis for the. Claim 12 has been amended to recite "said first sensor" in place of "said first encoder." Applicants respectfully submit that sufficient antecedent basis for "said first sensor" can be found in claim 1. Claim

12 depends from claim 1. Accordingly, Applicants assert that claim 12 is in compliance with 35 U.S.C. § 112, second paragraph.

Claim 47 was rejected for reciting, “said step of determining,” without sufficient antecedent basis for the claim limitation. Claim 47 has been amended to recite “said step of removing” in place of “said step of determining.” Applicants respectfully submit that sufficient antecedent basis exists for “said step of removing” in claim 46. Claim 47 depends from claim 47. Accordingly, Applicants assert that claim 47 is in compliance with 35 U.S.C. § 112, second paragraph.

B. Claims 7-8

Claims 7 and 8 were rejected as being “confusing” because it “isn’t clear how a fixed object can have roll and pitch.” Applicants assert that claims 7 and 8 are not confusing and that the specification makes clear how the “fixed portion” can have roll and pitch. As taught by Applicants, the “camera can be part of a camera assembly which includes a movable portion and a fixed portion.” *Specification*, p. 3, ll. 3-4. The movable portion is designed such that it moves (e.g., pan and tilt) relative to the fixed portion of the camera assembly. *See id.* at p. 6, ll. 4-17. The fixed portion is thus, “fixed” relative to the moveable portion, such that the fixed portion does not necessarily move with the moveable portion (although it can due to factors such as twist caused by a quick pan of the camera). But as Applicants further teach, a camera location can have a floor that can sag or wobble, a tripod can be kicked or moved, or the floor of a camera location can vibrate because of activity (e.g., fans jumping, etc.) in the stadium. *See id.* at p. 2, ll. 11-23. Thus, although the fixed portion is designedly fixed relative to the moveable portion, it may move due to other factors such as floor movement or mechanical compliance of the various parts of a tripod.

In accordance with such phenomenon, Applicants recited in claim 7, for example, that “said first inclinometer measures roll of said fixed portion.” The fixed portion may have “roll” because of vibrations, movement of the surface to which the camera assembly is coupled, or mechanical issues, etc. Thus, although the “fixed portion” is fixed relative to the moveable portion, it may have movement components such as roll and pitch. Thus, these claims recite measurements that can be used to address the “need for an improved camera attitude measurement system to better measure camera in light of the sources of error described above.” *Id.* at p. 2, ll. 24-25.

Applicants assert that claims 7 and 8 are not confusing because Applicants' Specification makes clear the meaning of roll and pitch of the fixed portion of the camera assembly. Accordingly, Applicants submit that claims 7 and 8 are in compliance with 35 U.S.C. § 112, second paragraph.

III. Rejection of Claims 43-47 under 35 U.S.C. § 102(b)

Claims 43-47 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,462,275 (*Lowe*). Because *Lowe* does not disclose all of the limitations of claims 43-47, Applicants assert that claims 43-47 are patentable over the cited art.

As Applicants describe with respect to one embodiment, "each of the audio signals includes data from the sensors associated with the camera providing the audio signal." *Specification*, p. 14, ll. 12-15. "The combined data from the sensors is sent to computer 406. Computer 406, computer 408, delay 410 and keyer 412 are used to enhance live video from a chosen camera." *Id.* at p. 15, ll. 11-13. These features are embodied in claim 43 which recites, "broadcasting said edited video, said step of broadcasting is performed live."

In contrast to using camera attitude information to edit video and then broadcasting the video live, *Lowe* teaches that camera information is recorded "on one of the videotape's audio tracks in synchronization with each video frame." *Lowe*, col. 11, ll. 40-43. The video and camera information are later used to provide an interactive television game that "permits players to select full motion video images, as opposed to computer graphics, to play such game and determine the outcome." *Id.* at abstract. *Lowe* teaches that serial position code is converted into an "analog audio signal and record[ed] on one of the videotape's audio tracks." *Lowe*, col. 11, ll. 40-43. The serial code is inserted into an audio channel and recorded onto videotape by a video recorder. *Id.* at ll. 50-54. The code is then "read on playback of the video play sequence and sent to the graphics engine (grid generator)." *Id.* at col. 12, ll. 23-25. The position information found in the audio track is decoded and converted "into display co-ordinates and a magnification factor for the generated grid" to be displayed during the game. *Id.* at ll. 25-28.

Thus, *Lowe* teaches recording the code onto videotape, reading the code during playback, and using the code to display a grid during a video game that uses the recorded video. *Lowe*, however, does not disclose "broadcasting said edited video, said step of broadcasting is performed live," as recited in claim 43. Since *Lowe* does not disclose each of the limitations of claim 43, Applicants assert that claim

43 is patentable under 35 U.S.C. § 102(b) over the cited art. Claims 44-47 each ultimately depend from claim 43 and should be patentable for at least the same reasons as claim 43.

IV. Rejection of Claims 1-15, 17, 19, 20, 22, and 24 under 35 U.S.C. § 103(a)

Claims 1-15, 17, 19, 20, 22, and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,084,184 (“*Crain*”) in view of Patents Abstracts of Japan Publication Number 09-133964 (“*Yoshiro*”) further in view of U.S. Patent No. 3,769,710 (“*Reister*”). Because the cited references, either alone or in combination, fail to teach or suggest each of the limitations of claims 1-15, 17, 19, 20, 22, and 24, Applicants assert that these claims are patentable over the cited art.

A. Claims 1-15 and 17

Applicants’ teach that certain “situations beyond the broadcaster’s control can interfere with and be a source of error when measuring camera attitude information.” *Specification*, p. 2, ll. 11-13. These situations and sources of error can include movement of the camera assembly (such as the base portion of a tripod camera assembly) due to an unintentional kick, a sagging or wobbling floor, vibration of the camera assembly, or mechanical compliance of the various parts of the assembly. *Id.* at ll. 13-23. Measuring or sensing pan and tilt of a moveable portion of a tripod relative to a fixed portion or base of the tripod does not take into account movement of the fixed portion itself or movement of a surface to which the tripod is coupled. These types of measurements only account for relative movement of a camera or portion of a camera assembly.

Accordingly, in addition to sensors that are used to measure movement “about a tilt axis” or “about a pan axis,” Applicants teach the use of sensors that can “measure changes in the pan axis and the tilt axis,” for example. *Id.* at p. 7, ll. 1-5. These additional sensors, which can include inclinometers or gyros, can “measure attitude of the base,” while an encoder or other sensor measures “the amount of rotation of the camera with respect to the base.” *Id.* at p. 18, ll. 19-21. Accordingly, the system recited in amended claim 1 includes “a first sensor coupled to said camera assembly, said first sensor measures movement of said movable portion relative to said fixed portion; and a first inclinometer coupled to said camera assembly, said first inclinometer measures attitude information of at least a portion of said fixed portion of said camera assembly.”

Applicants assert that *Crain*, *Yoshiro*, or *Reister*, either alone or in combination, fail to teach or suggest a first inclinometer that “measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1.

Crain

Crain discloses a TV camera including “angular rotating means” that “rotates the camera about a vertical or horizontal axis.” *Crain*, col. 3, ll. 33-35. *Crain* further discloses “[m]eans 54 are connected to the angular rotation means, 48 for determining the angles Θ_c and Θ_c .” *Id.* at ll. 36-37. As recognized by the Examiner, the means for determining the angles measures movement of a moveable portion of the camera. See *Office Action*, p. 2, ¶ 12. *Crain* makes no suggestion for any means that “measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1.

Yoshiro

Yoshiro teaches that photographing and observation equipment “is displaced on a magnetically levitated rotating disk 3 with stably levitates in a direction Z and a horizontal direction by magnetic force on the inner ring 4b of a horizontal holding gimbal mechanism 4.” *Yoshiro*, abstract. The gimbal mechanism, cited by the Examiner, is merely provided for more stable photography or observation. Thus, while *Yoshiro* may disclose a gimbal mechanism, nothing within *Yoshiro* suggests a first inclinometer that “measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1.

Reister

Reister discloses a gimbal mechanism and inclinometers. In *Reister*, however, the inclinometers do not measure “attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1.

As described by *Reister*, inclinometers 47 and 48 are magnetic inclinometers “mounted atop gyroscope 41 to respectively indicate the inclination of the Earth’s magnetic field in a North-South and East-West direction.” *Id.* at ll. 31-34. Their position is used by photo-pickoff means 50 and 52 to create signals to “torque gyroscope 41 until precession of gyroscope 41 aligns the spin axis of gyroscope 41 parallel or tangent to the lines of force of the Earth’s magnetic field.” *Id.* at ll. 34-39. Thus, while *Reister* discloses inclinometers, the inclinometers do not measure “attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1.

Furthermore, gyroscope 41 is not a “fixed portion relative to ring 39,” as asserted by the Examiner. *See Office Action*, p. 3. *Reister* describes that “gyroscope 41 [sic] is rotatably mounted about a fifth axis 40 within the third gimbal ring 39” and that the “third gimbal ring 39 [is] rotatably mounted about a fourth axis within the second gimbal ring 34b.” *Reister*, col. 11, ll. 21-26. (Note: The recitation of gyroscope 42 in the cited portion appears to be a typo as gyroscope 41, not 42, is the gyroscope mounted about fifth axis 40.) Any rotation of gimbal ring 39 about the fourth axis within gimbal ring 34b will clearly cause a rotation of gyroscope 41. Gyroscope 41 is mounted about fifth axis 40 which is coupled with gimbal ring 39. *Id.* at ll. 25-27; FIG. 6. Rotation of gimbal ring 39 about the fourth axis will cause a rotation of the fifth axis and gyroscope 41. Since rotation of gimbal ring 39 causes a rotation of gyroscope 41, gyroscope 41 is not fixed relative to gimbal ring 39.

Thus, rather than measure attitude information of a fixed portion of a camera assembly, the inclinometers of *Reister* are mounted to a moveable portion of a gimbal mechanism so that a gyroscope can be torqued to align its spin axis relative to the Earth’s magnetic field. Accordingly, nothing within *Reister* suggests a first inclinometer that “measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1.

As described above, none of the individual references teaches or suggests “a first inclinometer coupled to said camera assembly, said first inclinometer measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1. Applicants assert that even if *Crain*, *Yoshiro*, and *Reister* are combined as set forth by the Examiner, the combination fails to teach or suggest each of the limitations of claim 1. Nothing within the combination of references suggests a measurement of “attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1. Accordingly, Applicants assert that claim 1 is patentable over the cited art under 35 U.S.C. § 103(a). Claims 2-15 and 17 each ultimately depend from claim 1 and should be patentable for at least the reasons set forth with respect of claim 1.

B. Claims 19-20 and 22-24

Amended claim 19 recites “sensing data from a first inclinometer, said first inclinometer measures absolute attitude information of at least a portion of said camera assembly, said first inclinometer is coupled with said fixed portion.” *Crain* discloses means for determining various angles relating to camera lens position and an inclinometer that can be used to determine one of the angles. *Crain*, col. 3, ll.

36-40. *Crain*, however, teaches that “means 54 are connected to the angular rotation means.” *Id.* The angular rotation means rotate the camera about a vertical or horizontal axis. *Id.* at ll. 33-35. Thus, means 54 are coupled with a rotating portion, not a fixed portion. *Crain* makes no suggestion of determining absolute attitude information from an inclinometer coupled with a fixed portion of the camera assembly.

Yoshiro discloses a pan head device including a gimbal mechanism for improved stability in photography and observation. *Yoshiro*, abstract. While *Yoshiro* discloses a gimbal mechanism, *Yoshiro* makes no suggestion of an inclinometer that “measures absolute attitude information of at least a portion of said camera assembly, said first inclinometer is coupled with said fixed portion,” as recited in claim 19.

Reister discloses inclinometers for use in gimbal mechanisms but makes no suggestion of coupling them to a fixed portion to measure “absolute attitude information of at least a portion of said camera assembly.” As set forth above with respect to claim 1, inclinometer 47 of *Reister* measures the inclination of the Earth’s magnetic field so that a gyroscope can be torqued to align its spin axis relative to the Earth’s magnetic field. *Reister*, col. 11, ll. 31-39. *Reister* makes no suggestion of an inclinometer that “measures absolute attitude information of at least a portion of said camera assembly,” as recited in claim 19.

Furthermore, as set forth with respect to claim 1, inclinometer 47 is “mounted atop gyroscope 41.” *Id.* at ll. 31-32. Gyroscope 41 is “rotatably mounted about a fifth axis 40 within the third gimbal ring 39.” *Id.* at ll. 25-26. In addition to gyroscope 41’s movement about the fifth axis 40, fifth axis 40 is mounted within gimbal ring 39. *Id.* This configuration is such that rotation of gimbal ring 39 around the fourth axis will cause a rotation of gyroscope 41 about the fourth axis. Thus, *Reister* makes no suggestion of “said first inclinometer is coupled with said fixed portion,” as recited in claim 19.

Even if *Crain*, *Yoshiro*, and *Reister* are combined as asserted by the Examiner, Applicants assert that they fail to teach or suggest each of the limitations of claim 19. Nothing within the combination of references suggests sensing data from a first inclinometer that measures “absolute attitude information of at least a portion of said camera assembly,” or wherein “said first inclinometer is coupled with said fixed portion.” Accordingly, Applicants assert that claim 19 is patentable over the cited art under 35 U.S.C. § 103(a). Claims 20 and 22-24 each ultimately depend from claim 19 and should be patentable over the cited art for at least the reasons set forth with respect to claim 19.

V. Rejection of Claim 21 under 35 U.S.C. § 103(a)

Claim 21 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Crain* in view of *Yoshiro* further in view of *Reister* in further view of U.S. Patent No. 5,426,933 (“*Rosser*”). Because the cited references, either alone or in combination, fail to teach or suggest each of the limitations of claim 21, Applicants assert that these claims are patentable over the cited art.

Claim 21 depends from claim 19. As set forth with respect to claim 19, *Crain*, *Yoshiro*, and *Reister*, alone or in combination fail to teach or suggest “sensing data from a first inclinometer, said first inclinometer measures absolute attitude information of at least a portion of said camera assembly, said first inclinometer is coupled with said fixed portion,” as recited in claim 19. *Rosser* similarly fails to teach or suggest these limitations of claim 19. *Rosser* is directed to an apparatus that employs a pattern recognition algorithm to “provide a display which appears as if the inserted image was actually painted on or otherwise permanently positioned on the court.” *Rosser*, abstract. Nothing within *Rosser* teaches a first inclinometer that “measures absolute attitude information of at least a portion of said camera assembly, said first inclinometer is coupled with said fixed portion,” as recited in claim 19.

Accordingly, Applicants assert that the combination of references fails to teach or suggest each of the limitations of claim 19. Since claim 21 includes all of the limitations of claim 19, Applicants assert that claim 21 is patentable over the cited art because the combination of references fails to teach or suggest each of the limitations of claim 21.

VI. Rejection of Claims 16 and 23 under 35 U.S.C. § 103(a)

Claims 16 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Crain* in view of *Yoshiro* in further view of *Reister* in further view of *Lowe*. Because the cited references, either alone or in combination, fail to teach or suggest each of the limitations of claims 16 and 23, Applicants assert that these claims are patentable over the cited art.

A. Claim 16

Claim 16 depends from claim 1. As set forth with respect to claim 1, *Crain*, *Yoshiro*, and *Reister*, alone or in combination, fail to teach or suggest “a first inclinometer coupled to said camera assembly, said first inclinometer measures attitude information of at least a portion of said fixed portion of said camera assembly.” *Lowe* similarly fails to teach or suggest this limitation. *Lowe* merely discloses the

measurement of “movement of the camera in 3 axes. These axes will be the Pan axis (Azimuth), Tilt axis (Altitude), and Zoom axis.” *Lowe*, col. 11, ll. 13-17. Nothing within *Lowe* suggests a first inclinometer that “measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1.

Accordingly, Applicants assert that the combination of these references fails to teach or suggest all of the limitations of claim 1. Since claim 16 includes the limitations of claim 1, Applicants assert that claim 16 is patentable over the cited art because the combination of references fails to teach or suggest all of the limitations of claim 16.

B. Claim 23

Claim 23 depends from claim 19. As set forth with respect to claim 19, *Crain*, *Yoshiro*, and *Reister*, alone or in combination fail to teach or suggest “sensing data from a first inclinometer, said first inclinometer measures absolute attitude information of at least a portion of said camera assembly, said first inclinometer is coupled with said fixed portion.” Applicants assert that nothing within *Lowe* suggests a first inclinometer that “measures attitude information of at least a portion of said camera assembly, said first inclinometer is coupled with said fixed portion,” as recited in claim 19. As described with respect to FIG. 5 and FIG. 6, *Lowe* shows and describes encoders to measure an amount of pan, tilt, and zoom. There is no suggestion of a first inclinometer that measures attitude information of a portion of a camera assembly or wherein “said first inclinometer is coupled with said fixed portion,” as recited in claim 19.

Accordingly, Applicants assert that the combination of these references fails to teach or suggest each of the limitations of claim 19. Since claim 23 includes the limitations of claim 19, Applicants assert that claim 23 is patentable over the cited art because the combination of references fails to teach or suggest all of the limitations of claim 23.

VII. Rejection of Claims 18, 25-31, 35-38, 40, and 42 under 35 U.S.C. § 103(a)

Claims 18, 25-31, 35-38, 40, and 42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Crain* in view of *Yoshiro* in further view of *Reister* in further view of U.S. Patent No. 5,534,967 (“*Matsuzawa*”). Because the cited references, either alone or in combination, fail to teach or suggest each

of the limitations of claims 18, 25-31, 35-38, 40, and 42, Applicants assert that these claims are patentable over the cited art.

A. Claim 18

Claim 18 depends from claim 1. As set forth with respect to claim 1, the combination of *Crain*, *Yoshiro*, and *Reister* fails to teach or suggest “a first inclinometer coupled to said camera assembly, said first inclinometer measures attitude information of at least a portion of said fixed portion of said camera assembly.” Applicants assert that *Matsuzawa* does not teach or suggest this limitation. *Matsuzawa* merely discloses a shake sensor including shake gyros attached to a camera. *Matsuzawa*, col. 6, ll. 19-29; FIG. 4A. There is no disclosure of an inclinometer or a camera assembly including a fixed portion and a moveable portion. *Matsuzawa* only suggests attaching a gyro to a camera to measure shake speed of the camera itself, not an inclinometer that measures attitude information of a fixed portion of a camera assembly.

Accordingly, Applicants assert that the combination of *Crain*, *Yoshiro*, *Reister*, and *Matsuzawa* fails to teach or suggest “a first inclinometer coupled to said camera assembly, said first inclinometer measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 1. Since claim 18 includes the limitations of claim 1, Applicants assert that claim 18 is patentable over the cited art under 35 U.S.C. § 103(a).

B. Claims 25-31 and 35-36

Amended claim 25 recites “a first gyro coupled to said camera assembly, said first gyro measures attitude information of at least a first portion of said fixed portion of said camera assembly.” As set forth with respect to claim 1, even if *Crain*, *Yoshiro*, and *Reister* are combined as set forth by the Examiner, they fail to teach or suggest “a first inclinometer coupled to said camera assembly, said first inclinometer measures attitude information of at least a first portion of said fixed portion of said camera assembly.” Applicants assert that nothing within the combination of those references suggests the measurement of “attitude information of at least a first portion of said fixed portion of said camera assembly,” using an inclinometer, gyro, or otherwise.

Applicants assert that *Matsuzawa* does not teach or suggest this limitation and thus, fails to cure the identified deficiencies in *Crain*, *Yoshiro*, and *Reister*. FIG. 4A of *Matsuzawa* discloses shake gyros

attached to a camera. *Matsuzawa*, col. 6, ll. 19-29. There is no disclosure of a camera assembly including a fixed portion and a moveable portion, only a camera. The camera shake sensor which includes the gyros “is a means for detecting a rotational shake speed and outputting angular velocity information.” *Id.* at ll. 20-22. *Matsuzawa* only suggests attaching a gyro to a camera to measure shake speed of the camera itself, not a gyro that measures attitude information of a fixed portion of a camera assembly.

Thus, while *Matsuzawa* discloses gyros, there is no suggestion of a gyro that measures “attitude information of at least a first portion of said fixed portion of said camera assembly,” as recited in claim 25. Accordingly, there is nothing within the combination of references, even with the addition of *Matsuzawa*, to suggest a measurement of attitude information of a portion of a fixed portion of a camera assembly.

Therefore, Applicants assert that *Crain*, *Yoshiro*, *Reister*, and *Matsuzawa*, either alone or in combination, fail to teach or suggest each of the limitations of claim 25. Accordingly, Applicants submit that claim 25 is patentable over the cited art under 35 U.S.C. § 103(a). Claims 26-31 and 35-36 each ultimately depend from claim 25 and should be patentable for at least the same reasons as set forth with respect to claim 25.

C. Claims 37-38, 40, and 42

Claim 37 recites “sensing data from a first gyro, said first gyro measures attitude information of at least a portion of said fixed portion of said camera assembly.” As set forth with respect to claim 25, *Crain*, *Yoshiro*, *Reister*, and *Matsuzawa*, either alone or in combination, fail to teach or suggest “a first gyro coupled to said camera assembly, said first gyro measures attitude information of at least a first portion of said fixed portion of said camera assembly.” For at least the reasons set forth above with respect to claim 25, Applicants assert that the combination of these references fails to teach or suggest “sensing data from a first gyro, said first gyro measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 37.

Therefore, Applicants assert that claim 37 is patentable over the cited art under 35 U.S.C. § 103(a). Claims 38, 40, and 42 each ultimately depend from claim 37 and should be patentable over the cited art for at least the same reasons as set forth with respect to claim 37.

VIII. Rejection of Claim 39 under 35 U.S.C. § 103(a)

Claim 39 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Crain* in view of *Yoshiro* in further view of *Reister* in further view of *Matsuzawa* in further view of *Rosser*. Because the cited references, either alone or in combination, fail to teach or suggest each of the limitations of claim 39, Applicants assert that claim 39 is patentable over the cited art.

As set forth with respect to claim 37 (*see also*, discussion of claim 25), nothing within the combination of *Crain*, *Yoshiro*, *Reister*, and *Matsuzawa* suggests “sensing data from a first gyro, said first gyro measures attitude information of at least a portion of said fixed portion of said camera assembly.” As discussed above with respect to claim 21, *Rosser* is directed to an apparatus that employs a pattern recognition algorithm. Nothing within *Rosser* suggests measuring “attitude information of at least a portion of said fixed portion of said camera assembly,” using a gyro, inclinometer, or otherwise. Thus, Applicants assert that the combination of *Crain*, *Yoshiro*, *Reister*, *Matsuzawa*, and *Rosser* fails to teach or suggest this limitation. Claim 39 depends from claim 37 and therefore, includes this limitation. Accordingly, Applicants submit that claim 39 is patentable over the cited references under 35 U.S.C. § 103(a).

IX. Rejection of Claim 41 under 35 U.S.C. § 103(a)

Claim 41 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Crain* in view of *Yoshiro* in further view of *Reister* in further view of *Matsuzawa* in further view of *Lowe*. Because the cited references, either alone or in combination, fail to teach or suggest each of the limitations of claim 41, Applicants assert that claim 41 is patentable over the cited art.

As set forth with respect to claim 37 (*see also*, discussion of claim 25), nothing within the combination of *Crain*, *Yoshiro*, *Reister*, and *Matsuzawa* suggests “sensing data from a first gyro, said first gyro measures attitude information of at least a portion of said fixed portion of said camera assembly.” As set forth above with respect to claim 16, the combination of *Crain*, *Yoshiro*, *Reister*, and *Lowe* fails to teach or suggest “a first inclinometer coupled to said camera assembly, said first inclinometer measures attitude information of at least a portion of said fixed portion of said camera assembly.” *Lowe* merely discloses the measurement of pan, tilt, and zoom of a camera. *See Lowe*, col. 11, ll. 13-17. Nothing within *Lowe* suggests a sensing data from a first inclinometer or a first gyro that “measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 37.

Thus, Applicants assert that nothing within the combination of *Crain*, *Yoshiro*, *Reister*, *Lowe*, and *Matsuzawa* suggests “sensing data from a first gyro, said first gyro measures attitude information of at least a portion of said fixed portion of said camera assembly,” as recited in claim 37. Claim 41 depends from claim 37 and therefore, includes this limitation. Accordingly, Applicants assert that claim 41 is patentable over the cited art under 35 U.S.C. § 103(a).

X. Rejection of Claims 48-53 under 35 U.S.C. § 103(a)

Claims 48-53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Crain* in view of *Lowe*. Because *Crain* in view of *Lowe*, fails to teach or suggest each of the limitations of claims 48-53, Applicants assert that these claims are patentable over the cited art.

Amended claim 48 includes “an audio signal generator in communication with said first camera attitude sensor, said audio signal generator creates an audio signal which includes data from said first camera attitude sensor.” The Examiner recognized that *Crain* fails to disclose an audio signal generator in communication with a first camera sensor and cited *Lowe* for the disclosure of an audio signal generator. See *Office Action*, p. 11. ¶ 18.

Amended claim 48, however, further recites “wherein said data from said first camera attitude sensor is used by said production equipment to edit a video image from said camera during a live broadcast.” In *Lowe*, serial position code is converted into an “analog audio-signal and record[ed] on one of the videotape’s audio tracks.” *Lowe*, col. 11, ll. 40-43. During playback, the videotape is read and the code is converted into display co-ordinates to generate a grid in an interactive television game using the recorded video. *Id.* at col. 12, ll. 23-28. Nothing within *Lowe* suggests any technique of using the code other than recording it onto videotape. There is no suggestion in *Lowe* of “data from said first camera attitude sensor is used by said production equipment to edit a video image from said camera during a live broadcast,” as recited in claim 48. Accordingly, Applicants assert that *Crain* and *Lowe*, either alone or in combination, fail to teach or suggest each of the limitations of claim 48.

Since *Lowe* and *Crain* fail to teach or suggest each of the limitations of claim 48, Applicants assert that claim 48 is patentable over the cited art under 35 U.S.C. § 103(a). Claims 49-53 each ultimately depend from claim 48 and should be patentable over the cited art for at least the same reasons as set forth with respect to claim 48.

XI. Newly Added Claims

Claims 54-63 have been added. Claim 54 depends from claim 1, claim 55 depends from claim 19, claim 56 depends from claim 25, claim 57 depends from claim 37, claims 58-60 each ultimately depend from claim 43, and claims 61-63 each ultimately depend from claim 48. For at least the reasons set forth above with respect to claims 1, 25, 37, 43 and 48, Applicants assert that claims 54-63 are patentable over the cited art.

XII. Conclusion

Based on the above amendments and these remarks, reconsideration of claims 1-53 and consideration of newly added claims 54-63 is respectfully requested.

The undersigned respectfully requests an interview with the Examiner to discuss the claims prior to the issuance of any action in reply to the present Response A. Accordingly, an interview request form is submitted herewith. The Examiner is invited to call the undersigned at anytime to conduct or schedule the interview.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. § 1.136 for extending the time to respond up to and including today, January 2, 2004.

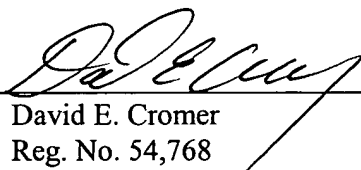
The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501826 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date:

1/02/2004

By:


David E. Cromer
Reg. No. 54,768

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